

**METHOD AND APPARATUS FOR ESTABLISHING
IMPROVED THERMAL COMMUNICATION BETWEEN
A DIE AND A HEATSPREADER IN
A SEMICONDUCTOR PACKAGE**

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ABSTRACT OF THE DISCLOSURE

A semiconductor package comprising a packaging substrate, a
10 semiconductor die mounted with the substrate, a heatspreader, and a multi-layer
heat transfer element arranged between the semiconductor die and the heat
spreader to enable thermal communication between the die and the heat spreader
is disclosed. The multi-layer heat transfer element includes a core spacer element
sandwiched between a first layer of thermally conductive reflowable material and
15 a second layer of thermally conductive reflowable material. Also disclosed are
methods for forming such semiconductor packages and for forming multilayer
heat transfer elements.